DOCUMENT RESUME

ED 158 769 IR 006 405

AUTHOR Gallagher, Margaret
TITLE Audio Visual Media for Teaching and Training: The Contribution of Research.
INSTITUTION Open Univ., Walton, Bletchley, Bucks (England). Inst. of Educational Technology.
REPORT NO IET-88
PUB DATE 78
NOTE 11p.; Paper presented at "Educating the Trainers" Conference (Keele, England, April 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Cost Effectiveness; *Educational Television; *Evaluation Criteria; *Instructional Design; Media Research; *Media Selection; Training

ABSTRACT

It is useless to spend time on studies investigating the large broad questions about the effect of media on teaching and learning. Smaller, more defined, more useful questions to ask are: How can we best use a given medium for a piece of instruction? How do the symbolic coding systems of a given medium relate to what a student learns from it? Within a given situation, which medium is more cost-effective than others? The ways in which audiovisual media are used at the Open University can be classified under five major categories: (1) to teach in ways that would otherwise be difficult or impossible; (2) to present experiences from life which would otherwise not be available; (3) to allow students to develop and practice intellectual skills; (4) to change students' attitudes; and (5) to guide and organize students' activities and to feed back the results of learning activities. A major problem often arises, however, when the tension between expectations about good professional broadcasting and sharp pedagogic content or function are dealt with in a way which attempts to graft on a plausible academic rationale to a well-established, familiar broadcasting format. The basic problem, however, is to ensure that what is intended to be learned is learned, and it is in the seeking and finding of possible solutions to this problem that research can make its major contribution. (Author/VT)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

- ED158769

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Audio Visual Media for Teaching and Training:

the Contribution of Research

Paper Presented at

"Educating the Trainers" Conference,

University of Keele, April 1978

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Margaret Gallagher

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

IR006455

Margaret Gallagher,
Lecturer in Media Research Methods,
Open University.

© Open University, 1978

Audio-Visual Media for Teaching and Training,

the Contribution of Research

Margaret Gallagher

Lecturer in Media Research Methods

Open University

A review of the journals of teacher and medical education indicates a striking preoccupation with questions about the usefulness of the audio-visual media for teaching and training. A very great deal of research time has been, and continues to be spent on studies - often based on principles of experimental design - which aim to answer large, broad questions about educational media: can audio-visual media teach? Can they teach as well as a teacher? Is any one medium more effective than others? Typically such studies attempt to compare learning outcomes when two different media are used: for example video tape and slide-tape presentations; self-instructional audiovision and direct teaching by conventional lecture, and so on. In general this kind of study tries to approximate laboratory conditions, controlling essential variables and using appropriate statistics to test the results. In the main, this experimental research is not particularly illuminating. Over and over again, the results point to the hardly surprising conclusion that people can learn from any medium; however, the better the design and control of the experimental study the more likely it is to show no significant or consistent differences when learning from one medium is compared with learning from another. We can find many reasons for the inconclusiveness of this kind of research, not least that it presents very difficult problems of design: valid controls are often impossible to achieve; in equating treatments between two media there is an inevitable distortion of the particular characteristics and capabilities of each; there is good reason to believe that such studies measure neither the total effects nor the most important ones in teaching and learning.

Fortunately, at the Open University we have never had to justify our use of audio-visual media through research. The initial decision to use television and radio as major media of instruction was based not on detailed research but on a certain reading of the field experience in using educational media, and largely on what amounted to political judgement. Our audio-visual teaching media are "given", consequently, we have been freed to turn our research effort towards smaller, more defined and - I think - more useful questions such as:

- how can we best use a given medium for a given piece of instruction?

- how do the symbolic coding systems of a given medium relate to what a student learns from it?

- within a given situation which medium is more cost-effective than others?

These questions reflect both the main orientations of the media research carried out in the Open University and the main preoccupations of Open University staff in their search for effective teaching methods and media. For although the media of instruction are "given", they are by no means taken for granted. There is continual internal debate about good practice and some attempt to adhere to the original notion that the University should be a "self-improving system". The audio-visual media - and in our case, this means primarily broadcast television and radio - are at the focus of continued attention mainly because of their cost. At present, the University spends £4½ million a year on these components of the teaching system - almost 20 percent of its total budget. However, when one realises that the cost of producing one twenty-five minute television programme is equalled by the cost of producing fifteen pages of printed material, it becomes clear that the system as a whole is costly. Broadcasting costs tend to be singled out in the first place because they are highly visible: an annual amount is paid to the BBC, who produce and transmit our programmes, by the Government on behalf of the University. The very separateness of this procedure tends to highlight expenditure on broadcasting; production costs of other media - such as print, home experiment kits, face-to-face teaching and so on - are more difficult to tease out from within the overall annual grant of what at present is about £20 million which is paid directly to the University itself. Secondly, however, a related question is often posed about the cost-effectiveness of the broadcast media within our teaching system. Broadcasting accounts for about 20 percent of the annual budget, but for only about 5 percent of the students' study time. How can we be sure that we are using this very expensive resource in the best, most effective way within the limited amount of time which it occupies in the total teaching load?

Research, even with the given, limited context of the Open University, has given no precise guidance in approaching this question. What it has done

is to indicate that we need first to consider the situation and the conditions of learning before we can begin to answer the question. So in the early stages of course planning, we need to spend time considering in detail the needs and abilities of the students to be taught, the nature of the learning events and outcomes to be brought about, and the media characteristics or coding systems most likely to achieve them. It is in this area - the development of interrelated typologies and taxonomies of learning styles and experiences, learning goals and media characteristics - that research is, I think, most likely to develop a useful theory of media instruction. And it is towards this that much of our research at the Open University is directed. Although we have by no means arrived at what might be called a fully-fledged theory, we have at least made a start in defining the preferences of our students for various styles and methods of teaching, and the nature of the learning experience, measured along various dimensions when the media are used in different ways.

So:

What are the ways in which our audio-visual media are used? We have developed a list of some thirty-three uses for radio and television which appear to be particularly appropriate to our teaching system. I can summarise these functions under five major categories. Firstly, the media are often used to teach in ways that would otherwise be difficult or impossible for us: to demonstrate experiments and to illustrate abstract principles or principles involving multi-dimensional space through the use of specially constructed physical models; to demonstrate changes over time by using animated, speeded-up or slow-motion techniques. Secondly, television and radio can bring to students experiences from life which would otherwise not be available: for example by providing filmed or taped material of events or observations hard to come by. Thirdly, we use the broadcast media to allow students to develop and practise intellectual skills of recognition, analysis, synthesis, application and evaluation by presenting them with primary resource material, for example, film or tape-recordings of naturally occuring events or of different sources of evidence. Fourthly, the media can be used to change students' attitudes by presenting material in a novel form - perhaps dramatisation - or from an unfamiliar view point. Fifthly, there is a use for these media in guiding and organising students' activities and in feeding back the results of learning activities. Now, using the media in any one of these ways has particular effects and involves particular teaching or learning considerations, which vary according to the specific content being carried, and its relationship to overall themes and aims, the teaching context and relationship of one medium to another within that context, the learning context and the characteristics and abilities of the learner.

I can illustrate some of these different uses and their teaching implications in relation to one particular Open University course, "The Handicapped Person in the Community". This was one of the first courses designed under our Post-Experience programme, although since 1977 the course has also been available to undergraduates. The Post Experience Courses Unit aims to meet the needs of adults who have had practical experience in a given field and wish to develop or broaden their skills and understanding to a higher level. These non-degree courses are being developed in four areas: in-service training for teachers, management studies, community education and health and social welfare. "The Handicapped Person in the Community" was the first course to be presented in the Health and Social Welfare area; the second, "An Ageing Population", aimed at those involved in the care of older people will be available in 1979; a third, "Psychiatric Care and Rehabilitation in the Community" is directed at those concerned with the welfare of people at risk to, suffering from or recovering from mental or emotional disorders, and is expected to be in presentation by 1980 or 1981.

"The Handicapped Person in the Community" is generally acknowledged to be among the most popular and successful courses in the Post Experience programme. It aims to improve professional and social skills in order to help handicapped people to achieve maximum autonomy, and is intended primarily for people whose professional activities bring them into contact with the handicapped - for social workers, therapists, health visitors, nurses, doctors, teachers and members of other supportive professions. It is assumed that most students will be familiar with some of the problems of handicapped people, but that their knowledge may be limited to a particular professional approach or to one specific type of handicap. The course examines professional roles and ideologies and encourages an inter-professional approach to problems. Actual case histories and case files are provided for analysis, and many of them are linked to activities in the printed correspondence texts and broadcasts. The first of these case histories is dealt with in the opening television and radio programmes of the Course.

The initial programme in any course is very important in setting the tone and the standard for a series. To some extent it is also a link for the students with the University, enabling them to gauge the views and expectations of the course team. The first programme in the "Handicapped Person" course had a mixed reception. The broadcast notes which accompanied the programme introduced the handicapped subject of the programme - James Woodward - as a member of the course team, which had planned and produced the course, and described one of the overall aims of the programme as being to demonstrate the achievements attainable by some physically handicapped people. In general,

however, students thought that the notes had not given a clear picture of how handicapped James was, and the programme came as a shock to many. Some felt that this shock was healthy, while others were angry at what they saw as an attempt to upset them. In fact, the general aim of the course team had not, in this case, been to arouse emotion but to provide information which would allow students to assess the advice and support available to handicapped people and their families, and the difficulties they encounter at various stages in their lives. Yet it was clear that this rather didactic aim was confused by the rather dramatic documentary style of presentation in the programme. A high proportion of students, particularly in the early part of the course, would have preferred a more straightforward didactic style. This confusion between didactic aim and non-didactic style and the problems it can cause for many students is a point I'll come back to later.

The dramatic approach was taken a stage further in the second television programme which consists entirely of edited extracts from Peter Nichols' play "A Day in the Death of Joe Egg" and which is specifically aimed at attitude change. The Nichols play uses a particular device to relate its effect - the actors role-play sketches within the play to caricature situations faced by parents of a handicapped child.

This programme was rated the least useful and the most difficult of the eleven television broadcasts for the course. Many students criticised it as being "contrived" and "artificial"; others felt shocked and were apparently unable to cope with the emotions provoked by the play; the major criticism, however, was that it was difficult to understand the aims of the programme and its relationship to the rest of the course. In fact, the programme was quite specifically related to the correspondence unit which students were expected to be reading at the time of the broadcast, a unit in which the concept of parental "guilt" is considered and in which different types of parental response are discussed. Unfortunately, even at this early stage in the course, many students were working behind schedule and so were unable to make the necessary connection between programme and text. Moreover, although students were warned that this was designed to be a provocative programme and to arouse feelings which might not have emerged from a more objective or academic approach, this warning was given in the accompanying notes rather than in the programme itself in which there was no academic commentary whatever. Again, the majority of students had not read the broadcast notes before viewing, and some did not read them at all. These two points raise questions about the extent to which the Open University can realistically meet its aims to produce integrated multi-media courses. Over-tight integration and overlocking of components causes problems when one of the elements - broadcasting - is bound to a strict schedule of transmission times. So we have to find ways of ensuring that that component is, at least in a limited sense, free-standing.

This brings me to a final point which emerged in relation to the impact of the dramatised programme. A number of Open University tutors reported that although the broadcast had apparetnly provoked initially hostile reactions, it had nevertheless provided a quick way into what became a useful discussion of some of the themes of the course, once the tutors themselves had added some necessary context and provided some interpretation of the programme material. We have found that this kind of programme can be an excellent and rich learning resource when used within a group, but that it is often difficult for the isolated distance-learner to cope with and make sense of programme formats which rely on dramatisation, simulation or even role-playing to make academic points. So while useful in teaching skills which can rely on tutorial back-up with the Open University - where tutorial attendance is not deligatory - we have to be careful about this use of television.

On the other hand, many programmes can and do stand alone quite successfully while still linking in, for additional substance, to the pedagogic aims of material presented elsewhere. These programmes also tend to be easier for individual students, working alone, to use profitably. The third broadcast in the 'Handicapped Person' course was probably the most overtly didactic programme, and was also the one found most useful by students. It was called 'Assessing a Young Child' and its three objectives were quite straightforward. It was intended that after watching students should be able to

- describe some of the methods used in assessing mentally handicapped children, and their purposes
- explain the difference between a criterion-referenced and a norm-referenced assessment.
- relate assessment to the setting of educational goals.

The programme shows a consultant paediatrician, who was also the author of the related correspondence text, making an assessment of a young mentally handicapped girl, Kitty, whose case history is one of those provided in the case file for the course. A Gunzberg Progress Assessment Chart which has been completed for Kitty on two different dates, is provided as supplementary material for reference while viewing.

This broadcast appealed to almost all students, however, because of its delivery of hard teaching content which would have been difficult or impossible to present in any other way, in order to be able to understand the method, for example, it was necessary to see how it was applied. It is this combination of pedagogic substance and appropriate use of medium which not surprisingly,

results in the most highly used and appreciated programmes within our teaching context. There is always a certain tension for programme-makers generated by the often conflicting expectations of our adult viewers, raised on a diet of technically sophisticated general service broadcasting but schooled in a fairly traditional way. They want to be taught but they don't want boring television. Attempts to resolve this tension are not always successful, as we shall see.

However, there are instances in which the tension or conflict does not have to be faced. This is when a decision is taken to leave aside the strictly pedagogic functions and to design a programme intended to provide a substitute experience. When the aim of such a programme is clear to students, and when they can see clearly the relevance of the experience to furthering their understanding or awareness of central themes of study, a highly successful learning outcome - impinging more on the affective than the cognitive domain - can be achieved. This was the case with programme six in the 'Handicapped Person' course, which focussed on 'The Wessex Experiment' and which had no strong didactic element: it simply expected students to watch, and to feel the quality of interactions between mentally handicapped children and untrained housemothers.

A major problem often arises, however, when the tension between expectations about good professional broadcasting and about sharp pedagogic content or function are dealt with in a way which attempts to graft on a plausible academic rationale to a well-established, familiar broadcasting format. There are very many cases of this in the Open University programming. There is no model of television or radio programme construction unique to the Open University. To a large extent we have simply learnt and adopted the existing practices and conventions of general service broadcasting. There is no doubt that often, preoccupation with the achievement of good professional broadcast standards leads to an emphasis on the product - the programme itself - while the process - the learning process risks being ignored, or at least taken seriously only when it is too late to be dealt with adequately.

One television format which is being increasingly used at the Open University is that of the documentary case-study. These programmes tend to present concrete examples of behaviour, drawn from the real world. They often contain very little or no academic commentary, and they can be used in a variety of ways, for example, to reflect the interrelation and complexity of various factors in structuring the behaviour or reality which we present. The programmes look very similar to the stardard 'Horizon', 'World in Action' and so on. However, Open University documentary case studies tend to have

associated with them elaborate sets of aims, generally related to the development of intellectual skills such as analysis, application, evaluation and so on.

Programme 10 of the 'Handicapped Person in the Community' is called 'Working Together'. Its theme is community effort in the provision of employment opportunities for handicapped people. However, it is not simply a programme about the provision of such employment. Its intention is to provide students with material on the basis of which they can evaluate the roles played by the various protagonists and relate them to attitudinal, social and economic factors discussed in the correspondence texts.

The problem with the type of programme, as we have establised over and over again through research, is that the very familiarity of the format engenders an unconscious relaxation which can encourage an emotional, accepting response, and a sort of 'so what' reaction when it has ended. It must be said that at least some of the programmes simply cannot carry or justify the weighty educational aims attached to them, since they were actually conceived and produced with no such aim in mind. Often such programmes are made with only their particular contents as a reference frame. The way in which the content is to be used, the intellectual skills to be developed, and the way in which the programme is to structure knowledge - in other words, the teaching functions - may be only very loosely defind. Educational aims and conceptual links may then at a very late stage of programme production be 'laid over' on already existing programme structure. Other case studies, although designed with academic integrity, are nevertheless unsuccessful because they are over-ambitious, demanding the application of intellectual and visual literacy skills which many students simply do not have.

We know very little about how to teach visual literacy skills. But there have been some interesting experiments on presentational features such as camera angle, presenter profiles, contrast, repetition, attention-directing techniques and so on. Going beyond that to the level of more fundamental coding factors, at the Open Univeristy we have identified five basic dimensions along which many of our programmes can vary: briefly, we describe these as didactic-open-ended, structured-unstructured, active-passive, neutral-polemical and integrated-freestanding. We argue that programmes should be placed along these dimensions according to the extent of students' experience in handling educational media material. We are also developing a package for the teaching of audio-visual literacy for use by people preparing for Open University study and have produced a number of programmes to demonstrate to students some of the skills involved in the use of broadcast material on certain courses.

Our researches have shown that in the vast majority of cases, students are unaware of not only the purely presentational features which can influence their perceptions of broadcast material, but also for the more fundamental factors which need to be considered when audio-visual material is used for certain purposes: factors such as the nature of the editorial process, the representativeness of the material presented, the role of the commentary and its relationship to the visual element and so on. The intellectual analysis - or even the critical viewing - of such material requires the development of a particular attitude to the media, as well as a particular battery of skills.

To return to our starting point: it seems to me that the question of whether people can learn from audio-visual media is hardly worth asking. That is not the problem. The problem is to ensure that what is intended to be learnt is learnt, and it is in the seeking and finding of possible solutions to this problem that I think research can make its major contribution.